



Stone Avenue and Grant Road Water Quality Assurance Revolving Fund (WQARF) Site Feasibility Study (FS) and Proposed Remedial Action Plan (PRAP), Updates, and Next Steps

4/28/20

Community Advisory Board (CAB) Meeting

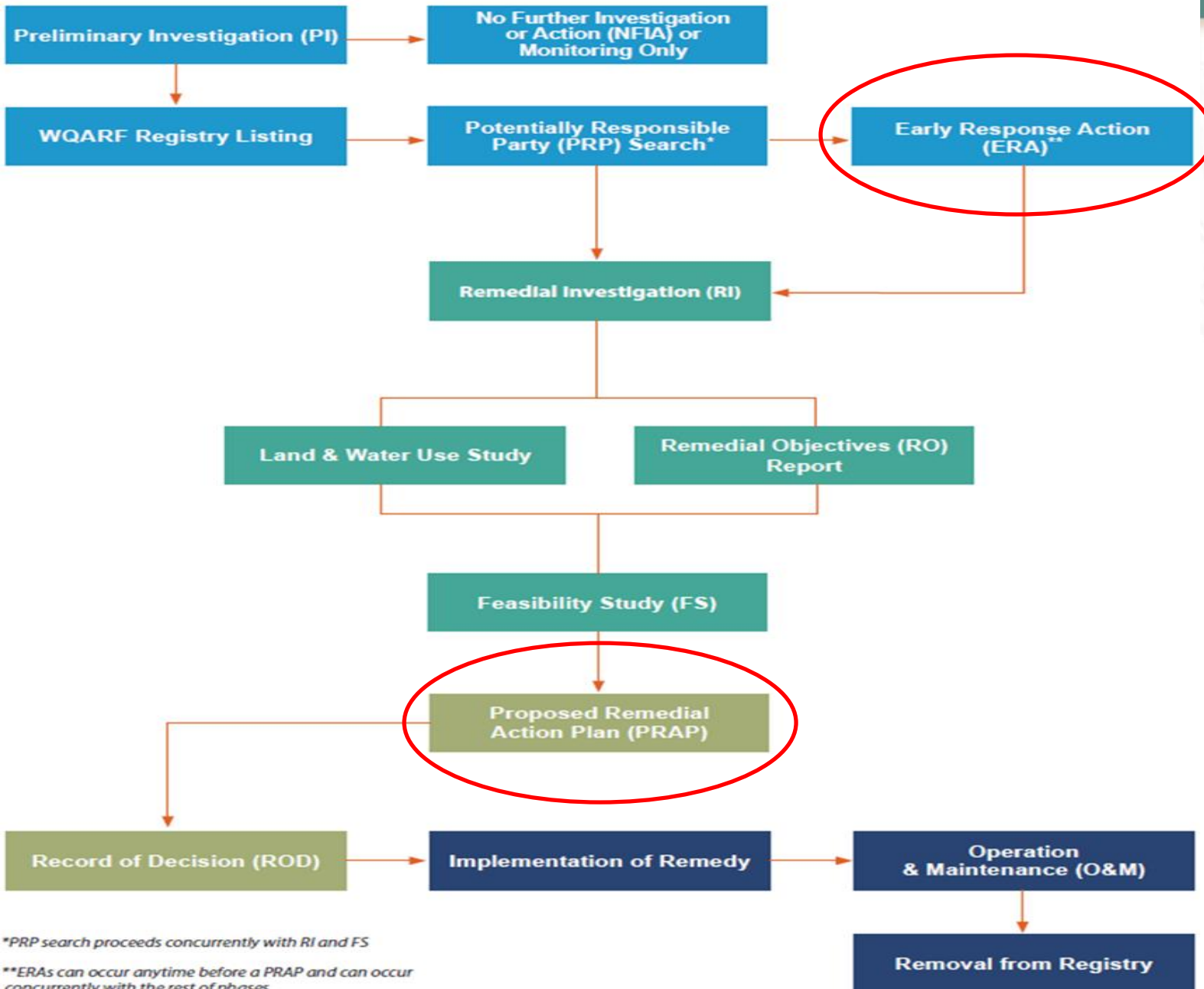
Gianna Trujillo, Environmental Science Specialist II/Project Manager



Stone & Grant WQARF Site Location



WQARF PHASES



*PRP search proceeds concurrently with RI and FS

**ERAs can occur anytime before a PRAP and can occur concurrently with the rest of phases

- Final RI and FS Work Plan (Soils Only)
 - Public Notice November 2019
- FS Report (Soils Only)
 - Public Notice February 2020
- PRAP
 - Public Notice March 2020
 - 90 Day Public Comment Period Ends June 2020
- Cost Recovery Not Appropriate (CRNA)
 - No viable Potentially Responsible Parties (PRPs)

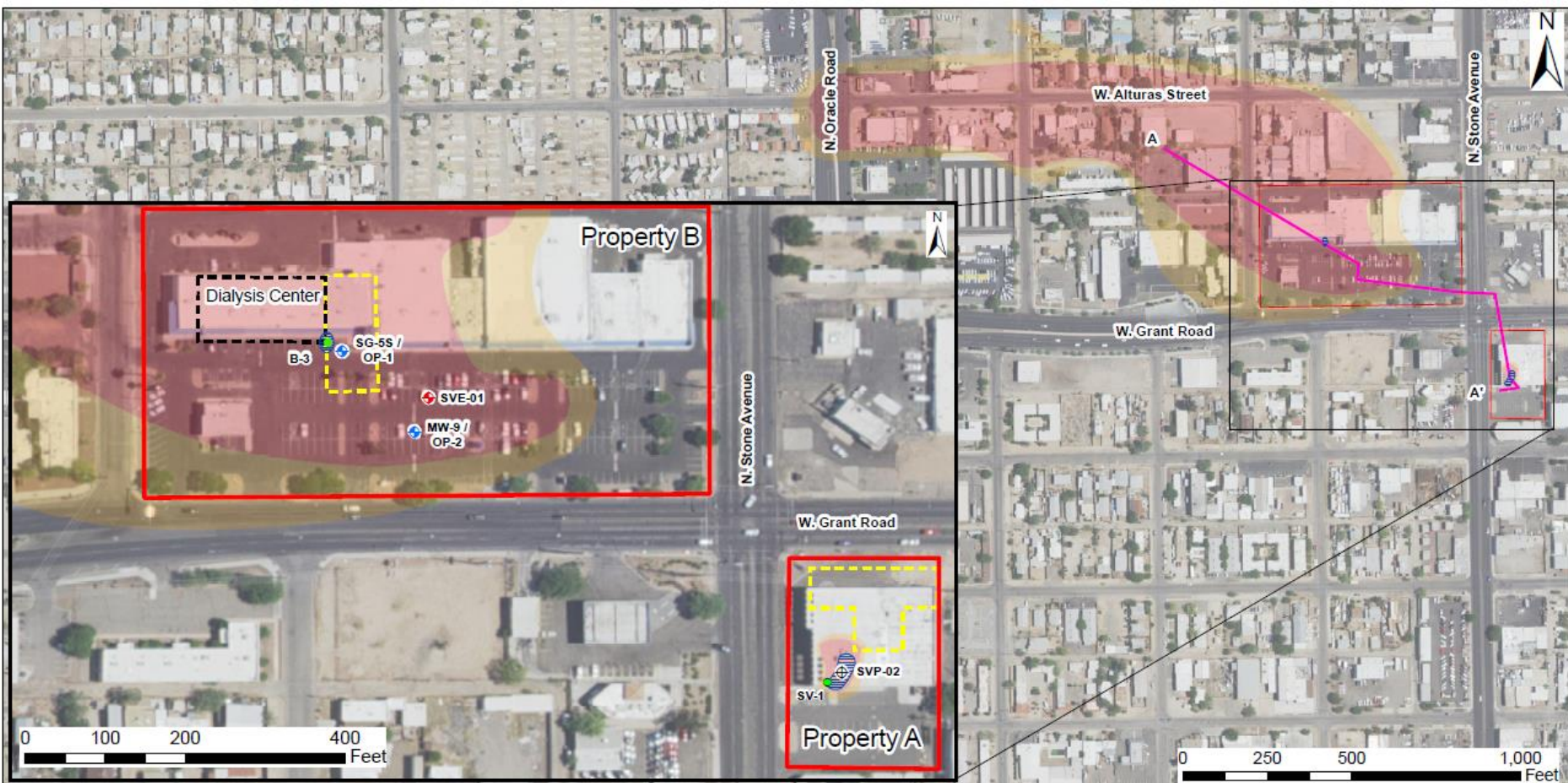
- Contaminant of concern (COC) is tetrachloroethene (PCE)
- Trichloroethene (TCE) was also investigated as a degradation product of PCE
- Groundwater (GW) is not impacted
- Contamination is in the shallow vadose zone
- Vapor intrusion to indoor air is the primary concern for exposure to PCE vapors via inhalation



Feasibility Study (FS)

- Site Remediation Areas Identified
- Remediation technologies screened as appropriate:
 - Soil Vapor Extraction (SVE), Soil Excavation, Institutional Controls
- RI Data Gaps
 - Indoor Air Data Gaps filled
 - NW edge of Soil Gas plume closed
- Proposed Remedy:
 - SVE with site wide monitoring

Site Remediation Areas Identified



— Cross Section A - A' (See Figure 4)

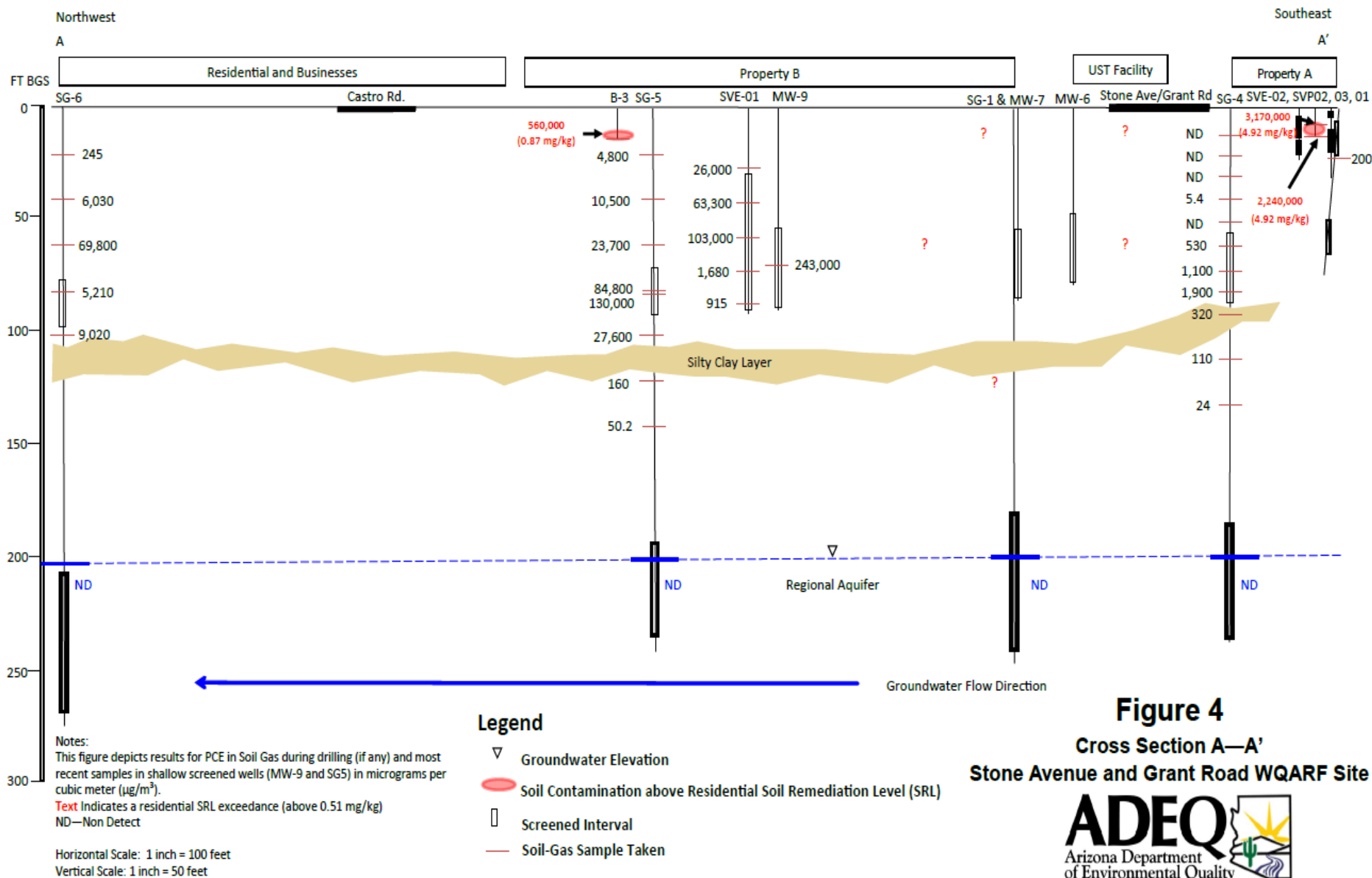
Legend

- Property Boundary
- Residential SRL Exceedance (Soil Equivalents) for PCE
- Sensitive Population
- Historic Dry Cleaner Locations
- Industrial PCE Soil-Gas Plume (above VISL 1,567 $\mu\text{g}/\text{m}^3$)
- Residential PCE Soil-Gas Plume (above VISL 367 $\mu\text{g}/\text{m}^3$)
- + SVE Well
- + Soil-Gas Sampling from Shallow GW Monitoring Well
- Temporary Soil-Gas Sampling Location
- ⊕ Dedicated Soil-Gas Monitor

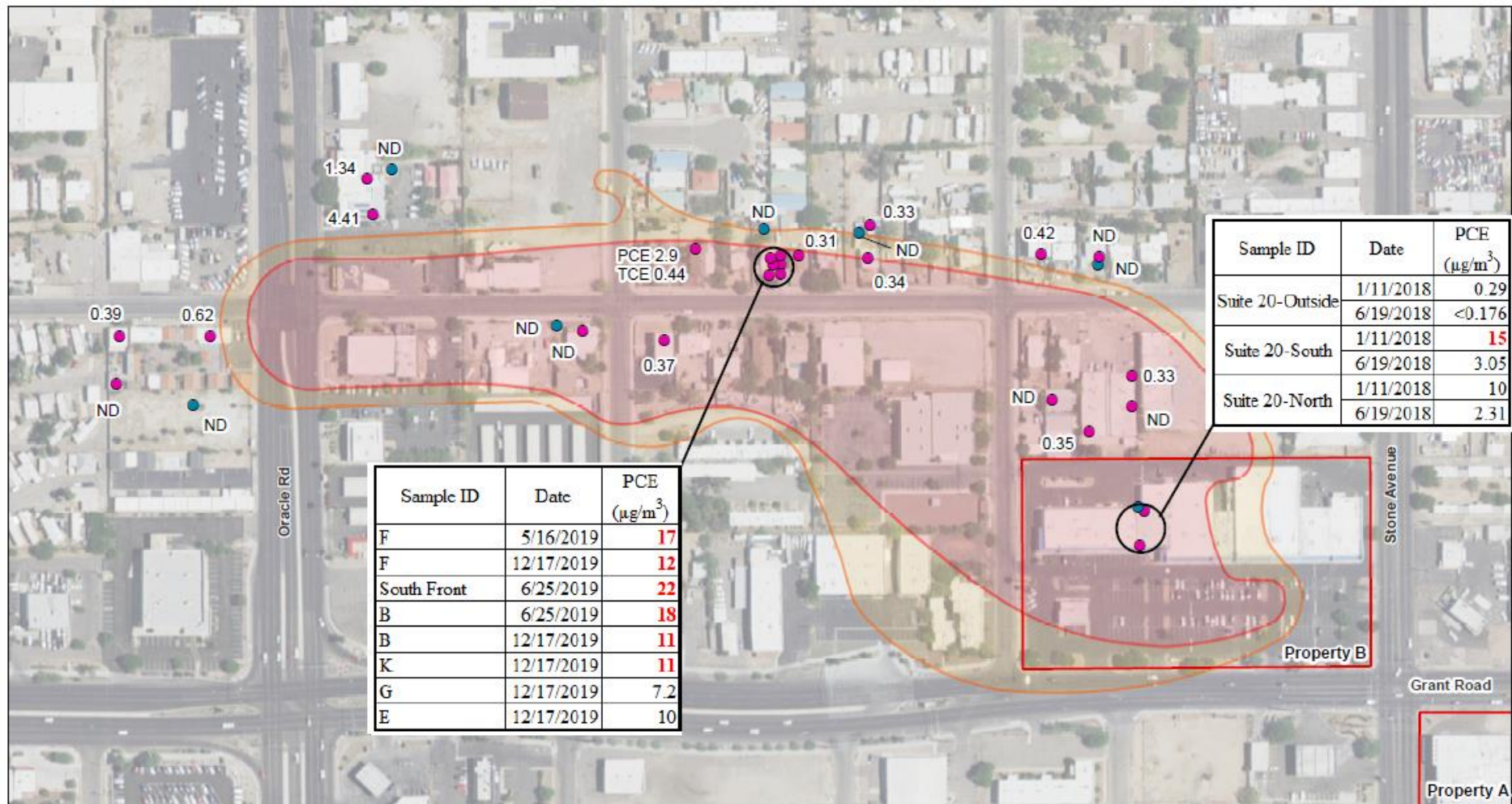
Notes:
Dedicated and Temporary sampling locations depicted on this figure are those specifically discussed in Section 2.3 of the FS.

Figure 3
Site Remediation Areas
Stone Avenue and Grant Road WQARF Site
Tucson, Arizona

Vertical Extent



Indoor Air



Legend

- Indoor Air Sample Location
- Ambient (outdoor) Air Sample Location
- PCE Soil-Gas Plume above Industrial Vapor Intrusion Screening Level ($1,567 \mu\text{g}/\text{m}^3$)
- PCE Soil-Gas Plume above Residential Vapor Intrusion Screening Level ($367 \mu\text{g}/\text{m}^3$)

Notes:
Map depicts the maximum PCE concentration detected at each sampling location and TCE only where detected.
All units are in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)
Indoor Air RSL = Regional Screening Level
PCE Residential RSL = $11 \mu\text{g}/\text{m}^3$, Composite Worker Air RSL = $47 \mu\text{g}/\text{m}^3$
Exceedances of residential RSL are in RED.

Figure 6

Indoor Air Quality Monitoring for PCE
Stone Avenue and Grant Road WQARF Site
Tucson, Arizona

Soil Excavation

- Physical removal of contaminated soils
- Larger footprint / invasive technique
- Limitations of the Site



Soil Vapor Extraction

- Extraction and treatment of Volatile organic compounds (VOCs) in soil gas
- Smaller footprint / less invasive
- COC is a VOC (gaseous phase = easier extraction)
- Limitations of the Site



Institutional Controls

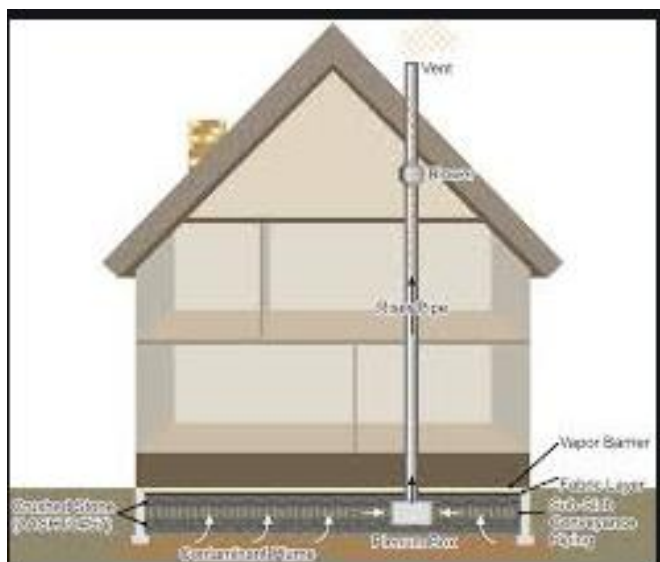
- Property owner may choose to sign and agree to a DEUR
- Restricts property future use
- Contamination may continue to remain in the subsurface below non-residential SRLs

Site Monitoring

- Utilizing or Installing a network of wells to monitor contamination in subsurface
- Monitor trends
- Contingency:
 - Additional Indoor Air Monitoring
 - Additional monitoring wells beyond the Site Remediation Areas (not associated with SVE)

Vapor Intrusion Mitigation Systems (VIMS)

- Property owner may choose to sign and agree to Environmental Access Agreements to install and maintain a residence specific system



Additional 5 Years SVE Operations

- Utilizing SVE, if the system requires more than 5 years operation several contingencies may be necessary:
 - Optimization
 - Well Installations
 - Permitting
 - Additional Monitoring Costs

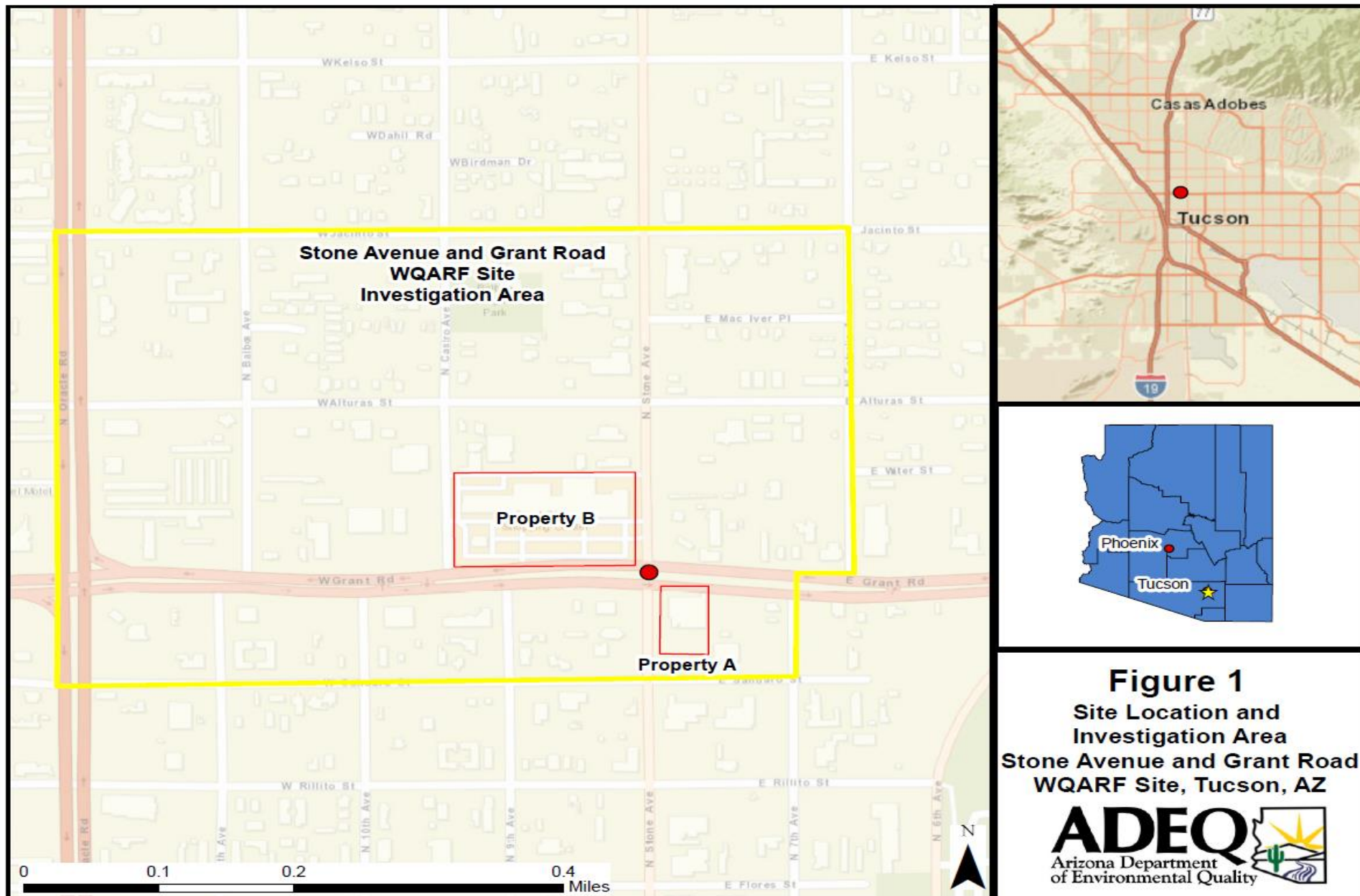
Institutional Controls



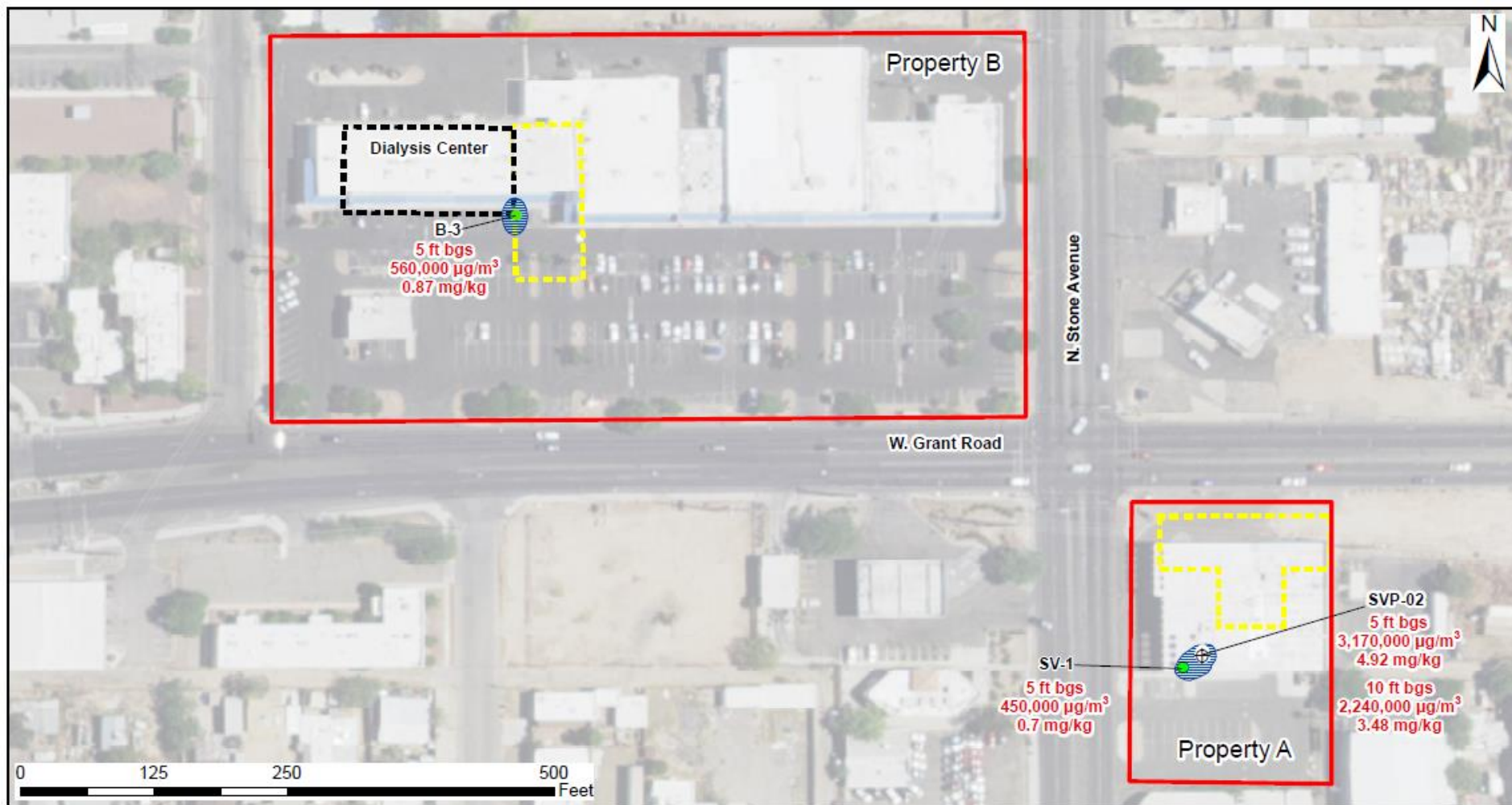
Proposed Remedial Action Plan (PRAP)

- Proposed Remedy:
 - Soil Vapor Extraction (SVE), Monitoring, Periodic Reviews
 - Contingencies: VIMS, additional monitoring and well installations, optimization efforts, Institutional Controls, additional 5 years Operation and Maintenance (O&M)
- Estimated Costs
 - 5 Years, without Contingencies: ~1 Million
 - 10 years, with all Contingencies: ~2.5 Million

Location



Remediation Areas



Legend

- Property Boundary
- Residential SRL Exceedance (Soil Equivalents) for PCE
- Sensitive Population
- Historic Dry Cleaner Locations
- Temporary Soil-Gas Sampling Location
- Dedicated Soil-Gas Monitor

Figure 2
Site Remediation Areas
Stone Avenue and Grant Road WQARF Site
Tucson, Arizona

Screening Level Exceedances

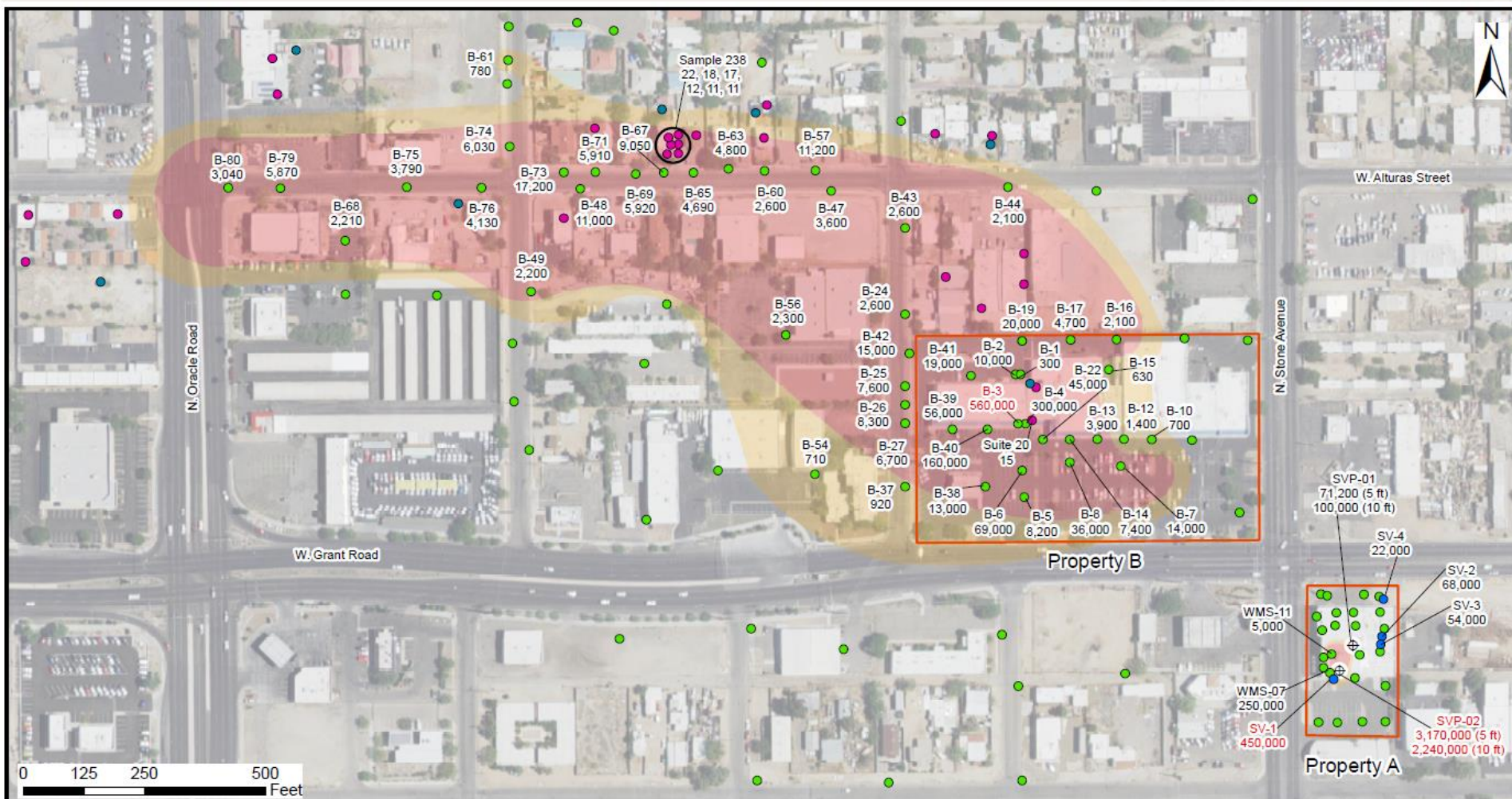


Figure 3

**Screening Level Exceedances
in Shallow Soil-Gas and Indoor Air
Stone Avenue Grant Road WQARF Site
Tucson, Arizona**

Monitoring Locations

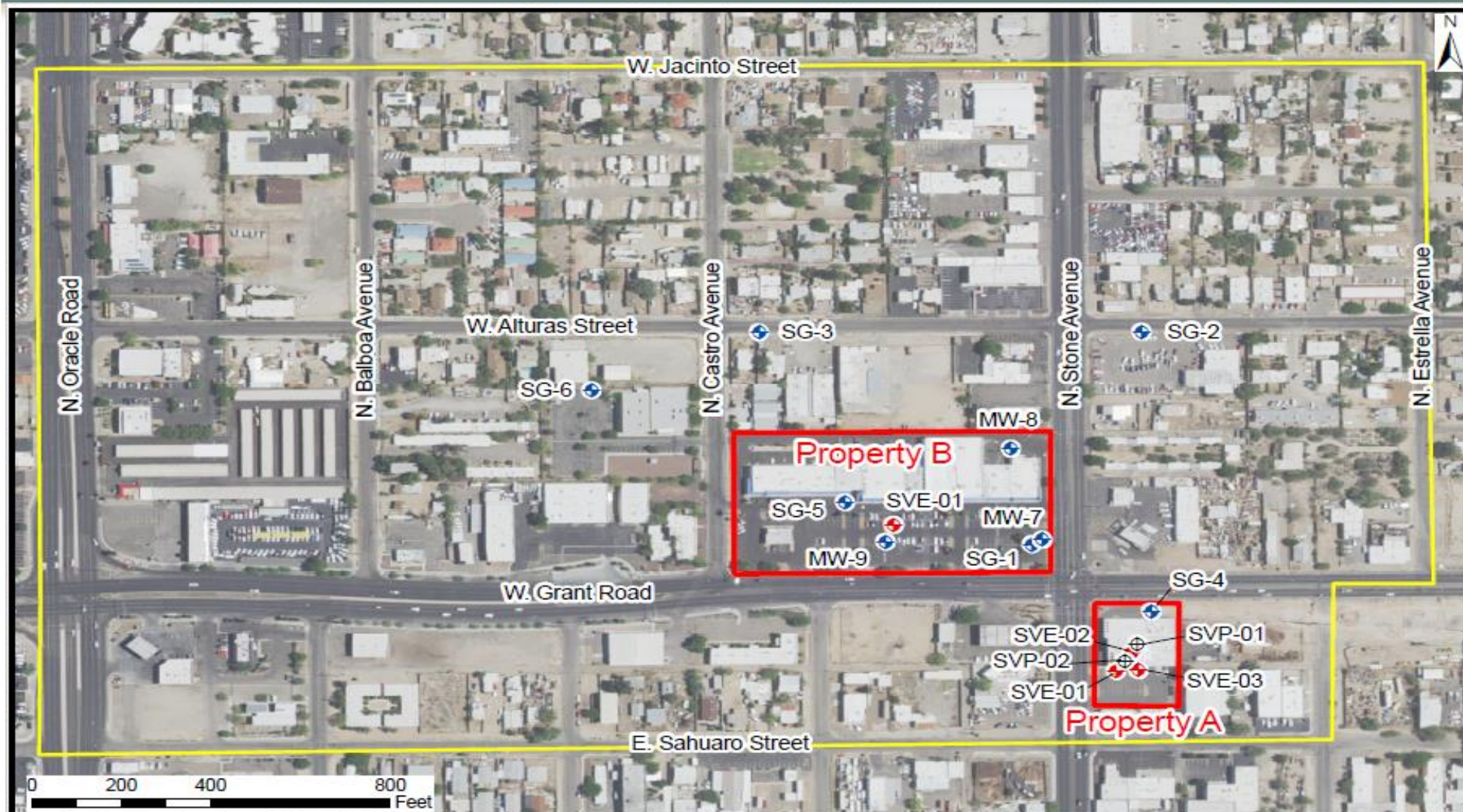


Figure 4
Monitoring Locations
Stone Avenue and Grant Road WQARF Site
Tucson, Arizona

Legend

- Site Investigation Area
- Property Boundary
- ⊕ Dedicated Soil-Gas Monitor
- ♦ SVE Well
- ⊙ Groundwater Monitoring Wells (Shallow and Dual Nested)

- **Property A SVE:**
 - Total Estimated Mass removed is 24.8 lbs of PCE as of November 2019
 - Installed additional dual Shallow SVE Well, SVE-03
 - Shut down: 3/24/2020
 - Was not able to sample SVP01 or 02 due to current facility restrictions
- **Property B SVE Well Test:**
 - Installed and Tested SVE-01
 - Full Scale SVE System Pending
 - Access Pending

- PRAP Public Comment Period
 - March 13, 2020 to June 11, 2020
- Record of Decision
 - Finalized Remedial Action Plan and Costs
 - Responsiveness Summary (ADEQ response to PRAP Comments)
- Remedial Design & Implement Remedy
 - July 2020
- Operation and Maintenance of Remedy
 - 5 to 10 Years: 2025 - 2030

- Please submit comments on PRAP to ADEQ:

- By Email to: Trujillo.Gianna@azdeq.gov
Subject Line “Stone Ave and Grant Rd WQARF PRAP Comments”
- By Mail to:
Arizona Department of Environmental Quality
Attn: Gianna Trujillo
400 W. Congress Street Suite 433
Tucson, AZ 85701

Please note that the ADEQ Tucson office has been temporarily closed and in person delivery is not available at this time.

Contact Information

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